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BOTANY.[1]

The So-Called "Resurrection Plant."—M. Leclerc du Sablon describes (*Bull. Soc. Bot. France*, xxxv.) the curious property of revivification possessed by *Selaginella lepidophylla*. When the root withers, each branch curls up, and the plant appears more or less in the form of a ball. In this state it is able to remain for a long time, and then when the water necessary for its growth is supplied, the branches unroll, the green color which had almost disappeared returns, and the branches and roots re-commence to grow. The structure of the plant is such that when dehydration occurs, the cells on one side of a branch are thicker than those on the other, thus they contract unequally and cause the branch to curl up.—*Jour. Roy. Mic. Soc., Vug., 1888.*

Pediastrum and Polyedrium.—Most botanists have had specimens of various species of both these genera under observation, and probably few have suspected their real relationship. The flat discs of the former certainly bear little resemblance to the caltrop-shaped groups of pointed cells of the latter. However, it appears that Askenasy has demonstrated that Polyedrium is but a stage of Pediastrum, or, to be more accurate, in statement, that *Polyedrium polymorphum* is a stage of *Pediastrum boryanum*.

The Plants of Rhode Island.—James L. Bennett, of Providence, has prepared, and the Franklin Society has printed, a catalogue of the plants of Rhode Island, enumerating 2,928 species, besides 230 varieties. They are distributed as follows:—

Phanerogams...........	475 genera,	1,259 species,	101 varieties.
Cryptogams.............	494 "	1,669 "	129 "

Of the phanerogamous orders the following are the richest in species: Compositæ, 152; Cyperaceæ, 131; Gramineæ, 126; Leguminosæ, 52; Rosaceæ, 41; Labiatæ, 37; Scrophulariaceæ, 35; Ericaceæ, 32; Cruciferæ, 29; Ranunculaceæ, 28; Polygonaceæ, 28; Caryophyllaceæ, 27; Umbelliferæ, 27; Liliaceæ, 25.

The Cryptogams are represented as follows, viz.: Equisetaceæ, 4 species; Filices, 33; Lycopodiaceæ, 13; Characeæ, 8; Musci, 185; Hepaticæ, 74; Lichenes, 151; Fungi, 582; Algæ, 619.

The work of preparation has evidently extended over a considerable period, as in the preface it is stated that the Musci were determined by Mr. Lesquereux, and the Hepaticæ passed through the hands of Austin, who also aided in the determination of Musci, as did, also, Tuckerman for the Lichenes, and M. A. Curtis and Berkeley for the Fungi. The two groups last named were revised by Willey (Lichenes), and Peck and Ellis (Fungi).

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[1] Edited by Prof. Chas. E. Bessey, Lincoln, Neb.

The arrangement of the Phanerogams follows that of Bentham and Hooker, but that of the Cryptogams is in confusion, and is decidedly antiquated, particularly so in the Fungi. However, the list is a very useful one, and a credit to author.

WATSON'S CONTRIBUTIONS TO NORTH AMERICAN BOTANY, XV.—In this contribution the new cruciferous genus Lesquerella is described. It includes American species hitherto referred to Vesicaria, and Alyssum, with a few species here described for the first time, making thirty-three in all. A revision of the North American species of Draba is given, including descriptions of two new species. Thirty-two species are recognized.

Among the more notable new species described may be noted—a Trifolium (*T. howellii*) from southern Oregon; a Pyrus (*P. occidentalis*) from Washington Territory to California; a Pentstemon (*P. shockleyi*) from Nevada; a Calochortus (*C. howellii*) from Oregon; and a Tillandsia (*T. wilsoni*) from Florida. A new genus of Eupatoriaceæ is described under the name Hartwrightia, represented by a single species (*H. floridana*) from Florida. Both genus and species are credited to Dr. Gray, who recognized them as distinct, but delayed publication in order to await better material.

Many interesting species of Mexican and Guatemalan plants are described in Parts 2 and 3 of the paper. Prionosciadium, near Angelica in Umbelliferæ, and Louteridium in Acanthaceæ, are the two new genera described, the first represented by three Mexican, and the second by one Guatemalan species, the latter bearing the highly objectionable name of *L. donnell-smithii.*

CANADIAN PLANTS.—Part IV. of the Catalogue of Canadian Plants, by John Macoun, completes the list of flowering plants. The list includes 2,955 species. Two more parts are still to appear; Part V. to be devoted to the ferns and their allies, and the mosses and liverworts; and Part VI. to lichens, fungi and algæ.

ENGELMANN'S BOTANICAL WORKS.[1]—When Dr. George Engelmann died, in 1884, his botanical writings were scattered through the pages of so many publications as to make much of his work inaccessible to the ordinary student. This has been remedied by Henry Shaw, the well-known philanthropist of St. Louis, through whose liberality the scattered writings have been brought together in a handsome quarto volume of 548 pages, and nearly one hundred full-page plates.

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[1] The Botanical Works of the late George Engelmann. Collected for Henry Shaw Esq. Edited by William Trelease and Asa Gray. Cambridge, Mass.: John Wilson & Son, University Press, 1887. 4to.

The title-page bears the names of William Trelease and Asa Gray, as editors. In the preface, which bears date of March, 1887, Dr. Gray states that "the classification and arrangement of the papers, and essentially the whole editorial labor, has devolved upon the Engelmann Professor in the Shaw School of Botany, Dr. Trelease, under my supervision." The biographical sketch which appears in the volume is the same as that prepared for the American Academy of Arts and Sciences by Dr. Gray, and afterwards published in the Proceedings of the Academy, and also in the *American Journal of Science.*

The contents of the volume may be summarized as follows: 1. De Antholysi Prodromus (a Latin dissertation on Teratology). 2. Sketch of the Botany of Dr. A. Wislizenus's Expedition (from Missouri to Santa Fé). 3. Papers on Cuscutineæ (six in all). 4. Papers on Cactaceæ (twelve in number). 5. Papers on Juncus (two). 6. Papers on Yucca, Agave, etc. (eight). 7. Papers on Coniferæ (twelve). 8. Papers on American Oaks (four). 9. Papers on Vitis (six). 10. Papers on Euphorbiaceæ (six). 11. Papers on Isoetes (three). 12. Shorter miscellaneous papers (eleven). 13. Lists, and collected Descriptions of Plants (ten). 14. General Notes (three).

The engravings which illustrate the papers were in some cases printed from the original plates, while in others new plates had to be made, the originals having long since been destroyed. The volume is a most valuable one, and reflects great credit upon all concerned in its production.—*Charles E. Bessey.*

ALGÆ GROWING ON ANIMALS.—Three species of algæ, belonging to two genera, have been recently described as occurring on the hairs of Sloths. The green species is placed in the new genus *Tricophilus* in the family Chroolepideæ, and the violet ones in the genus *Cyanoderma,* also new, of the family Chamæsiphoneæ. It has been estimated that as many as 150,000 to 200,000 individuals often occur upon a single hair.

THE USE OF TANNIN IN THE PLANT.—The suggestion has recently been made by Professor Hillhouse that tannin may be developed in plants as a protection against the attacks of fungi.

RAVENEL'S HERBARIUM.—This valuable collection is offered for sale by the widow of the late H. W. Ravenel, at Aiken, S. C. It should be secured by some college, and given a permanent home where it may always be accessible to students of the fungi.